

# **ELECTRICAL POWER GENERATION SYSTEM AND METHOD FOR MITIGATING CORONA DISCHARGE**

## **ABSTRACT OF THE DISCLOSURE**

A power generation system including a housing defining a cavity and having an inlet for receiving a fluid that is used to cool and pressurize the cavity and an outlet for removing the fluid from the cavity. The system also may include a rotor having a first end positioned within the cavity of the housing and a second end, a plurality of bearings, positioned to contact the rotor, for providing radial support to the rotor, and a turbine connected to the second end of the rotor. Further, the system may include a heat sink positioned within the cavity and between the housing and the rotor, an electronic component attached to the heat sink, and a reaction chamber for receiving the fluid from the outlet and for producing a substance that is directed to the turbine causing it to rotate.